



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### On Invoking "Culture" in the Analysis of Behavior in Financial Markets

**Citation for published version:**

MacKenzie, D 2017, On Invoking "Culture" in the Analysis of Behavior in Financial Markets. in K Chemla & E Fox Keller (eds), *Cultures Without Culturalism: The Making of Scientific Knowledge.*, 1, Duke University Press, pp. 29-48.

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Peer reviewed version

**Published In:**

Cultures Without Culturalism

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



# Evaluation Cultures? On Invoking ‘Culture’ in the Analysis of Behaviour in Financial Markets

Donald MacKenzie

How does one *represent* other cultures? What is *another* culture? Is the notion of a distinct culture ... a useful one, or does it always get involved either in self-congratulation (when one discusses one’s own) or hostility and aggression (when one discusses the ‘other’)?

(Said 1978, p. 325, emphases in original)

In recent decades, the concept of ‘culture’ has had a strangely bifurcated history.<sup>1</sup> The critique implicit in Said’s questions has been deeply influential, especially in social anthropology, for which ‘culture’ was the single most central concept. By 1996, an encyclopaedia of the discipline talked of the possibility of ‘abandon[ing] talk of different “cultures” altogether, because of its taint of essentialism’ (Barnard & Spencer 1996, p.142), in other words because of its connection to the simplistic idea that a culture was a kind of ‘package’ that was ‘coherent inside and different from what is elsewhere’ (Mol 2002, p.80). Simultaneously, however, invocation of ‘culture’ has increased sharply in areas in which it had not been hugely salient previously, for example in the social studies of science in the form of the ‘local scientific cultures’ of Barnes, Bloor & Henry (1996), the ‘experimental cultures’ of Rheinberger (1997), ‘epistemic cultures’ of Knorr Cetina (1999), ‘epistemological

---

<sup>1</sup> The research reported here was funded primarily by a grant from the UK Economic and Social Research Council (RES-062-23-1958). I am grateful to Jonathan Spencer for a helpful discussion of the ‘career’ of the concept of culture in anthropology, and to Mary Morgan, Bruno Belhoste and Jonathan Regier for insightful comments on the first draft of this chapter, although I must apologise to them for the fact that space constraints have made it impossible to take up all their suggestions. Of course, all errors remain my responsibility.

cultures’ of Keller (2002) and ‘evidential cultures’ of Collins (2004). Indeed, ‘culture’ has escaped the boundaries of academia: it has become not at all uncommon to find the term used in everyday language in a sense roughly similar to its social-science usages. When teaching students thirty or so years ago it was necessary to explain that it didn’t refer simply to ‘high culture’ such as opera; now such a warning is hardly necessary.

Of course, suspicion of the concept of ‘culture’ arises above all in relation to EuroAmerican representations of non-EuroAmerican peoples (the ellipsis mark in my quotation from Said conceals a reference to race, religion and civilisation), and the ‘cultures’ invoked in the social studies of science are not, e.g., ‘national cultures’ but far more local. Nevertheless, Said’s questions are worth asking in other contexts: *is* the notion of ‘culture’ a useful one in those contexts? With the partial exception of Knorr Cetina (1999), invocations of ‘culture’ in the social studies of science have not tended to devote much space to discussion of the polysemic, politically treacherous aspects of the term.<sup>2</sup> In this chapter, I ask whether a notion of ‘culture’ broadly inspired by these social-studies-of-science usages can productively be applied to a specific aspect of behaviour in financial markets: evaluation, in other words efforts to determine the economic worth of financial instruments. (I include efforts to estimate the ‘intrinsic value’ of financial instruments, either in absolute terms or relative to that of other instruments, as well as efforts simply to judge whether the price of an instrument is likely to rise or to fall.)<sup>3</sup>

---

<sup>2</sup> I intend no critique, or at least no critique that I would not apply to my own usage of ‘culture’: see MacKenzie (2001, chapter 9). Other relevant invocations include the ‘cultures of economic calculation’ of Kalthoff (2006) and ‘calculative cultures’ of Mikes (2009).

<sup>3</sup> Of course, evaluation in financial markets can have non-monetary aspects, such as in ethical investing or Islamic finance (see, e.g., Maurer 2005). I concentrate in this paper on monetary evaluation because

There are two reasons for shifting the focus from science to the financial markets.

First, evaluation in financial markets is of enormous importance yet very poorly understood. For example, a crucial role of financial markets is to channel investment capital to some activities and not to others, and the amounts of capital involved are huge. (For instance, a single asset management firm, BlackRock – admittedly the world’s largest – controls assets totalling \$3.45 trillion, which Kolhatkar & Bhaktavatslam [2010] point out is more than the GDP of Germany.) The evaluation of financial instruments – of shares, of government or corporate bonds, etc. – is a crucial aspect of this channelling role. Second, shifting attention to the financial markets highlights an issue that tends not to be prominent when ‘culture’ is applied to science: the theory of action associated with the concept. In their ordinary social-science usage, invocations of ‘culture’ are often associated informally with an implicit theory of action as based on habit, belief and routine, rather than on rational choice. Arguably, there is nothing inherently necessary in this association, and ‘culture’ is still relevant even when one views actors as reflexive and rational. Since rational, reflexive action is to be found in the financial markets if it is to be found anywhere, those markets provide a useful arena in which to explore the usefulness of the concept of ‘culture’ in contexts in which such action is prevalent.<sup>4</sup>

---

that seems overwhelmingly the dominant form, and also because I want to investigate the invocation of ‘culture’ in contexts where its applicability is not obvious.

<sup>4</sup> I should make clear that in referring to ‘rational’ action, I apply the term narrowly to mean action that is understandable in terms of actors choosing the course of action they view as most likely to achieve their goals, given the pattern of incentives they face, whether or not the resultant actions are rational in a broader sense (e.g. beneficial to the wider economy or society). It is clear that while the behaviour that generated the credit crisis may often have been rational in the narrow sense it was not rational in that broader sense.

The chapter will proceed as follows. In the next two sections, I exemplify the idea of ‘evaluation practices’ in financial markets, by describing the clusters of practices surrounding two classes of financial instrument important to the recent credit crisis: asset-backed securities (ABSs) and collateralised debt obligations (CDOs). The contrast between the two shows how clusters of practices can differ consequentially even when similarly-structured instruments are being evaluated. I then turn to the question of what would be needed in order for it to be justifiable to move beyond the notion of ‘clusters of practices’ to a stronger notion of ‘evaluation cultures’, suggesting four criteria that would need to be met. The conclusion then returns to Said’s question of the usefulness of the notion of culture, and I express what are inevitably rather personal views on that.

The empirical research on which this paper is based is a detailed study of the evaluation and governance of complex financial instruments such as ABSs and CDOs. This research draws upon two main sources. First is a set of 92 interviews conducted with analysts, managers, traders etc. of these instruments. (58 of these interviews took place in London, 26 in New York, and 8 elsewhere. 29 of the interviews, which focussed on CDOs and similar instruments, were conducted prior to the eruption of the credit crisis in June 2007, and 63 after the onset of the crisis.) These interviews took a broadly oral-history form, with interviewees being led through their careers in respect to the instruments in question, with a view to examining the main developments in the markets for those instruments and in the ways in which they were evaluated. Second, the trade press and technical literature were searched in order to assemble a corpus of documents relevant to analysis of those market developments and evaluation practices: such documents include, for example, the technical reports

in which the credit rating agencies outlined the models they employed in generating their ratings.

Both these categories of source have their deficiencies. Oral-history interviews, for example, are vulnerable to interviewees' imperfect memories and desire to present themselves and their actions in a favourable light, while technical reports, textbooks, etc. often present idealised accounts of evaluation practices. Nevertheless, I hope that careful triangulation amongst different sources has made it possible to construct a reasonably robust account of matters such as the differences between how ABSs and CDOs were and are evaluated, along with a historical narrative (presented in much more detail in MacKenzie 2011) of how those practices evolved.

## **Evaluating ABSs**

What is an evaluation practice? Let me address this question concretely, by considering the evaluation of ABSs (the evaluation of CDOs will be discussed in the next section). Structurally, the two classes of instrument are quite similar: see figure 1. The creator of an ABS or CDO typically sets up a special-purpose legal vehicle, such a trust or special-purpose corporation. The vehicle buys a set of debt instruments (in the case of ABSs, typically mortgages or other forms of consumer debt; in the original CDOs, loans made to corporations or bonds issued by them), raising the capital to do so by selling investors securities that are claims on the cashflow from the pool of debt instruments.<sup>5</sup>

---

<sup>5</sup> CDOs with this structure would be described as 'cash CDOs', and another important category of CDO is the 'synthetic CDO', which instead of buying a pool of debt assets sells protection on them (i.e. 'insures' them against default), and uses the income from the sales of protection to pay investors.

Those securities are ‘tranchéd’, with the tranches at the top of the hierarchy being safest: they have the first claim on the income from the pool (after fees, etc., have been paid). Only after these more senior claims are met are the claims of investors in lower tranches met. Tranches at the bottom of the hierarchy are thus riskiest. If the debt instruments in the pool suffer defaults (if, for example, mortgagors stop repaying the loans made to them), then there may be a shortfall in the payments due to investors in the lowest tranche. If there are larger numbers of defaults, investors in that tranche may lose the entirety of their investment, and holders of the next most senior tranche may start to be hit. Because of the greater riskiness of the lowest tranches, these offer the highest ‘spreads’ (increments over Libor, i.e. London interbank offered rate, or other benchmark interest rate), while the most senior tranches offer the lowest spread.

Determining the economic worth of an instrument of this kind is clearly a non-trivial task. Consider the most important class of ABSs, mortgage-backed securities.<sup>6</sup> One particular historical contingency strongly shaped their evaluation: the fact that the securitisation of mortgages in the US (in other words, the packaging of them into pools and the sale of securities that are claims on the income from those pools) began its modern history in 1970 as a government-backed programme (for its historical origins, see Quinn 2009), in which investors were made good by government-backed agencies in the event of defaults on the underlying mortgages. Because investors could thus ignore the risk of default, they focussed primarily on a different risk: prepayment. Deliberate government intervention in the US mortgage market after the Great Depression (at the peak of which, ‘nearly 10 percent of homes were in

---

<sup>6</sup> Other ABSs’ pools include debt such as auto loans, student loans, credit card receivables, etc. These were peripheral to the credit crisis and will not be discussed here.

foreclosure': Green and Wachter 2005, pp. 94-95) led to the dominance of a specific form of mortgage that Green and Wachter call simply 'the American mortgage': a long-term, fixed-interest-rate mortgage with no penalty for prepayment (i.e. for redeeming the mortgage early). 'The American mortgage' thus both protects mortgagors from interest-rate rises and gives them the valuable option of redeeming the mortgage early and refinancing if interest rates fall. The obverse of that benefit to mortgagors, however, is a risk to the investor: that he or she will receive his or her money back early at a point at which (because of low interest rates) it cannot be reinvested as profitably. The evaluation of mortgage-backed securities was thus primarily a matter of determining by how much the borrower's option to prepay reduced the value of those securities.

The focus on prepayment risk in the evaluation of US mortgage-backed securities continued even after 'private label' – i.e. not government-backed – securities with tranching structures such as that shown in figure 1 (the early government-backed securities had simpler structures) began to be issued from 1977 onwards, and also after mortgage lending moved beyond the 'prime' mortgages that the government-backed agencies would purchase or insure to 'subprime' (for example, loans to mortgagors with impaired credit histories). Investors in the more senior tranches even of subprime mortgage-backed securities continued largely to ignore the risk of default and still focussed primarily on prepayment. Indeed, from the viewpoint of prepayment, subprime mortgage-backed securities were often seen as better than prime, because even though levels of prepayment of subprime mortgages were high, the sensitivity of subprime prepayment rates to interest-rate changes (the sensitivity



that was the major perceived drawback of prime mortgage-backed securities) was less in the case of subprime.

As we now know only too well, there is a potential agency problem at the heart of securitisation: if the risk of default is passed on to external investors, then the originators of the loans that will go into the pool have a much reduced incentive to monitor the capacity of borrowers to repay. Indeed, that agency problem undermined all the pre-1970 waves of mortgage securitisation in the United States (see Snowden 1995). For around 25 years from the rebirth of private-label mortgage securitisation in the US in 1977, however, the agency problem was held at bay, in part because of the activities of two sets of gatekeepers.

The first was the credit-rating agencies such as Moody's, Standard & Poor's and Fitch. Ratings were essential to the successful sale of mortgage-backed securities. It was very hard indeed to find buyers for securities without an investment-grade rating (i.e. BBB- or above): indeed, the lowest externally sold tranche of a mortgage-backed security was often the 'mezzanine' tranche with a BBB- or BBB rating. By far the largest demand was for AAA-rated securities at the very top of the hierarchy.

This made the evaluation of mortgage-backed securities by ratings agencies a crucial matter. The agencies were concerned exclusively with default: they considered prepayment to lie outside their ambit. The evaluation practices they employed gradually evolved from the analysis of the overall characteristics of mortgage pools (such as the average loan-to-value ratio of the mortgages in the pool) to logistic regression or hazard-rate models of default on individual mortgages (using a wider

range of variables, such as the FICO creditworthiness scores of the borrowers, for which see Poon 2007 and 2009). Crucially, there was no explicit modelling of the phenomenon that the evaluators of CDOs were to call ‘correlation’ (see below). Interdependence amongst defaults was handled by other means, such as the use of historically-based ‘stress scenarios’, above all the mortgage defaults of the Great Depression: at Standard & Poor’s, for example, the criterion for a rating of AAA was that the tranche in question could withstand Great Depression default rates or their equivalents for the pool in question. The use of stress scenarios then made it possible mathematically to treat mortgage defaults as independent events, because ‘correlation’ was arguably implicit in the adverse macroeconomic circumstances crystallised in the scenarios. Another source of what CDO specialists were later to call ‘correlation’ – the exposure of a geographically-limited pool of mortgages to local economic conditions – was also handled procedurally rather than by explicit mathematical modelling: pools of mortgages considered insufficiently diversified geographically were subject to ratings penalties.

The second set of gatekeepers was the investors in the mezzanine tranches of mortgage-backed securities (as noted, those were typically the lowest of the tranches to be sold to external investors).<sup>7</sup> Their role was pivotal, because the mezzanine tranches were the hardest to sell, and the investors in those tranches were those with their capital most immediately at risk. Investing in mezzanine tranches was typically a specialised activity, conducted by institutional investors with considerable experience of the mortgage market. They would frequently ask for the ‘loan tapes’ (the electronic records of the mortgages in the pool), which investors in more senior

---

<sup>7</sup> My attention was first drawn to the importance of mezzanine investors by Adelson & Jacob (2008).

tranches almost never did, and inspected the tapes in detail, for example looking for clusters of particularly risky mortgages. If they found such clusters, they would sometimes demand that the composition of the pool be changed before they would invest. The creators of mortgage-backed securities had to take such demands seriously, because failure to sell the mezzanine tranche would typically mean that a mortgage-backed security could not successfully be created.

## **Evaluating CDOs**

CDOs were a later development than mortgage-backed securities. While, as noted, the first modern private-label U.S. mortgage-backed security was issued in 1977, the first CDO was created only in 1987. CDOs were typically structured in a way similar to mortgage-backed securities and other ABSs (again see figure 1), but the composition of the pool of debt instruments was different: instead of mortgages or other consumer debt, the pool of a CDO would typically be corporate debt.

Originally, the evaluation of CDOs was broadly similar to the evaluation of mortgage-backed securities, with the exception of the fact that prepayment was a relatively minor issue (with no equivalent of the deliberate government action on behalf of mortgagors, loans to corporations are often floating-rate or involve substantial prepayment penalties). For instance, the way in which analysts at rating agencies evaluated CDOs was originally quite similar to how they evaluated mortgage-backed securities. Stress scenarios were prominent, and poor diversification (too much of a CDO's pool coming from one industry, for example) was again penalised procedurally. When evaluating a CDO, analysts at Standard & Poor's, for example,

would ‘notch’ (i.e. reduce by one or more ratings grades) the debt instruments issued by corporations in a given industry if that industry formed more than 8 percent of the CDO’s pool.

However, the practices employed in rating CDOs were impacted by a historical contingency of a kind quite different from the contingencies that shaped the evaluation of mortgage-backed securities. The evaluation of CDOs was influenced deeply by the development of modern mathematical modelling of financial derivatives, in particular the most celebrated of all such models, the Black-Scholes option pricing model (Black and Scholes 1973). An ‘intellectual descendant’ of the Black-Scholes model, the Gaussian copula family of models, came to dominate the evaluation of CDOs, first (in the late 1990s) at major banks, and then from November 2001 onwards at the rating agencies. (November 2001 was the date at which Standard & Poor’s first released its Gaussian-copula-style software system *CDO Evaluator*).<sup>8</sup>

In a Gaussian copula model, the way in which defaults are not independent events – ‘correlation’ – is modelled explicitly and mathematically rather than being handled implicitly and procedurally as was the case in the evaluation of mortgage-backed securities. (A copula function – a formalism introduced to mathematical statistics by Sklar 1959 – ‘joins together’ the distribution functions of uniformly-distributed variables in such a way as to yield a specific multivariate joint distribution function. A ‘Gaussian copula’ yields the distribution function of a multivariate normal distribution.) The ‘correlation’ of two corporations is here taken to mean the correlation between the changing market values of their assets, and a Gaussian copula

---

<sup>8</sup> By ‘Gaussian-copula-style’ I mean systems, such as the original version of *Evaluator*, which are one-period models (what is modelled is whether the assets in the CDO’s pool will default, not when) and are thus not fully-fledged copula models of the kind introduced by Li (2000).

model takes the matrix of the correlations of all the pairs of corporations in the CDO's pool, along with estimates of the probability of default for each of the corporations and of the 'recovery rate' for each corporation (in other words, the extent to which the losses given default are less than total), and produces an estimate of the risk of default for each of the CDO's tranches. If correlation is low, for example, then only the lowest tranche of a typical CDO will be at any substantial risk. If correlation is high, however, then more senior tranches are also at risk, because defaults are likely to come in clusters of sufficient size to cause losses to investors in those tranches.

Despite the original similarities between the ways in which mortgage-backed securities and CDOs were evaluated, the evaluation of the two classes of instrument became largely separate organisationally. In banks, quite separate groups typically handled ABSs, on the hand, and CDOs on the other, and the same was true in the rating agencies (at least in their main offices in New York). As discussed in MacKenzie (2011), this cognitive and organisational separation was an important aspect of the credit crisis that has not received sufficient attention. Crucial to the crisis (the source, for example, of the single largest concentration of losses) were ABS CDOs, a new category of instrument developed at the end of the 1990s, in which the assets in the pool of a CDO were no longer corporate debt but tranches of mortgage-backed securities and other ABSs. The ABS CDO was a kind of nested 'Russian doll': a tranching, structured instrument, each component of which was itself a tranche of a structured instrument.

All three of the rating agencies found a similar organisational solution to the problem of how to evaluate a nested instrument of this kind: the evaluation of the overall

structure was handled by CDO groups, who relied on the ratings of the underlying ABS tranches that their colleagues in the separate group who evaluated securities of that kind had produced. This enabled the evaluation of ABS CDOs to proceed in a manner similar to the evaluation of a CDO in which the underlying assets were corporate bonds or loans made to corporations: in effect, a tranche of a mortgage-backed security rated BBB was treated in the analysis of the CDO in a way very similar to how a BBB corporate bond was treated.<sup>9</sup>

Usually, although not always, higher correlation values were employed in the analysis of ABS CDOs than were used for CDOs whose pools consisted of corporate debt (for a detailed discussion of correlation assumptions, see MacKenzie 2011), but not sufficiently high to prevent the construction of ABS CDOs being a very profitable activity. In particular, it was possible to create a pool of the mezzanine tranches of mortgage-backed securities, with their typical rating of BBB, and build a CDO in which around three-quarters of the structure could gain a AAA rating. This might look like magic or alchemy, but was in fact the consequence of the assumption of only modest correlation, the analogue of the way in which although an individual toss of a coin can easily produce a tail, twenty independently tossed coins are most unlikely to turn up tails.

In consequence of the huge demand from ABS CDOs for the mezzanine tranches of ABSs, the second of the traditional gatekeepers (investors in those mezzanine tranches) were sidelined completely: while, as noted, such investors would frequently

---

<sup>9</sup> To the extent that there were differences, they often tended to favour mortgage-backed securities. Prior to the credit crisis, the default rates of mortgage-backed securities were typically lower than those of corporate bonds with the same rating, and this was typically taken to justify the assignment of a lower probability of default to those securities.

scrutinise the pool of mortgages underlying an ABS in detail, the creators of ABS CDOs had much less incentive to do so, since they were going to pass the risk of default on to investors in the CDO. That left only the ratings agencies in a gatekeeper role, and (as we now know) that was insufficient to prevent the agency problem latent in securitisation from becoming manifest.

It was a less a question of the ratings agencies lowering their standards (although there is some evidence of this: see Financial Crisis Inquiry Commission 2011) than of widespread ‘arbitraging’ of rating-agency models: the packaging of debts of increasingly poor quality in such a way as still to be evaluated favourably by those models. The process was by no means the only cause of the financial crisis (in several cases, for instance in the U.K. and Ireland, banks rendered themselves insolvent by old-fashioned reckless lending, especially in commercial property, rather than via complex structured instruments), but it was a central part of the story of the crisis, pivotal, for example, in the downfall or near-downfall of Citigroup (the world’s largest bank), AIG (the world’s largest insurer), Merrill Lynch, UBS, etc. The particular toxicity of ABS CDOs lay not simply in the huge losses incurred on them, but in their effects on mortgage lending and in the way ABS CDOs concentrated losses at the very pinnacle of the global financial system: above all via the retention or purchase by banks of the apparently safest, ‘super-senior’, tranches of ABS CDOs, and via the ‘insuring’ of those tranches against default by AIG and the specialist insurers known as ‘monolines’ (see Tett 2009 and MacKenzie 2011).

### ***Evaluation Cultures?***

Evaluation practices do thus differ, even when financial instruments with very similar structures such as ABSs and CDOs are being evaluated, and the differences between practices are consequential.<sup>10</sup> Should we conceive of differences amongst evaluation practices as constituting different ‘evaluation cultures’? I would posit that four criteria need to be met before we should do so.

First, we would need to find different practices associated with at least somewhat distinctive ‘ontologies’, in other words with non-identical views of what economic value consists of and about the nature of the economic processes that create it.<sup>11</sup> Very different such views can be found historically, both among political economists and lay people. For example, mercantilists believed that value was created by ‘capturing the turn in traded goods’<sup>12</sup>: the difference between the prices at which a commodity could be bought and be sold. For classical political economists, value was created above all in production: for Marx, for instance, the only source of value was labour.

Broad-brush differences in ontology can still be found in today’s financial markets. Perhaps the most pervasive example is whether financial instruments have an ‘intrinsic value’, or whether that notion is meaningless, and the value of a financial instrument is nothing other than the price someone else is prepared to pay for it.

---

<sup>10</sup> For evidence of differences amongst evaluation practices in other contexts, see Smith (1989) and Lépinay (forthcoming).

<sup>11</sup> The recent vogue in the social sciences for the notion of ‘ontology’ has given rise to the suspicion that it is ‘just another word for culture’, to quote a motion to that effect debated at the 2008 Meeting of the Group for Debates in Anthropological Theory, University of Manchester (the debate is recorded in the June 2010 issue of *Critique of Anthropology*). As I use the word here, ‘ontology’ is an aspect of culture, not a synonym of it. Nor in invoking ‘distinctive’ ontologies do I wish to imply that they are wholly disjoint. For reasons of brevity and clarity, the text focuses on differences in ontology, but these were of course commonalities as well.

<sup>12</sup> I owe the phrase (and the suggestion of these examples of ontologies) to Mary Morgan. What the examples suggest is that the ‘multiple ontology’ thesis of, e.g., Mol (2002) and Viveiros de Castro (2004) is perfectly plausible for economic life: for example, seventeenth-century mercantilists and twentieth-century free-market economists *did* inhabit different worlds. However, that is not to say that their theories created the worlds they inhabited. Economic ontologies may have performative aspects (they may help bring into being the worlds they posit), but their performative powers are not unlimited.



Generally speaking, the evaluation of both ABSs and CDOs proceeded within an intrinsic-value ontology: those instruments were analysed as claims on a future income stream, with the price others were prepared to pay for the instruments not taking an especially salient role (in many cases, tranches were bought simply because of the ‘spread’ they offered, rather than because it was hoped that they could be resold to others at a higher price).

The most prominent difference in ontology between the evaluation of ABSs and CDOs concerns, as suggested above, correlation. The CDO specialists I talked to seemed almost all to consider correlation to be a real phenomenon, albeit one that was often frustratingly difficult to measure, while a specialist in mortgage-backed securities told me that he and his colleagues simply did not think that way: that’s ‘not how we do it in mortgages; it’s never been done that way’. To them, an ABS tranche was simply not analogous to a corporate bond: as already noted, this was the ontological implication of the way in which CDO correlation models such as the Gaussian copula were applied to ABSs in the evaluation of ABS CDOs. This analogy was in their view a misleading oversimplification of mortgage-backed securities, which were ‘among the most complicated financial instruments to understand’, as another of them put it to me.

The difference between the ontologies of the worlds of ABSs and of CDOs was consequential. The key justification of awarding higher ratings to the tranches of a structured security than to the debt instruments forming its pool is diversification of the pool. Implicitly, and as far as I can tell almost entirely unnoticed by participants, that argument was appealed to *twice* in the rating of ABS CDOs: first as the

justification for awarding investment-grade ratings to tranches of subprime mortgage-backed securities, and then as the justification for awarding higher ratings to the tranches of an ABS CDO than to the component mortgage-backed securities. However, ratings penalties for geographical concentration meant that mortgage-backed securities were already quite well diversified, at least to the extent that the geographical distribution of lending in the US permitted that (subprime lending was heavily concentrated in a number of states such as California and Florida). In consequence, the packaging of ABSs into CDOs seems often not to have added a great deal of extra diversification.

The difference in ontologies meant that lack of diversification was conceptualised as ‘correlation’ only in the evaluation of the overall CDO, while being treated procedurally and implicitly in the evaluation of the underlying mortgage-backed securities. So the way in which credit was being given for diversification twice over was less than obvious. Amongst my 92 interviewees, I found only one who had clearly identified this issue prior to the crisis, and he was unable to persuade the senior management of his agency that ratings practices in relation to ABS CDOs were therefore flawed.

A second criterion I would propose for judging whether an evaluation culture exists is the existence of processes of socialisation by which newcomers learn the ontology and practices in question. Surprisingly – given the importance of socialisation – this is an area where data in respect to finance are weak, although some traces of socialisation mechanisms can certainly be found in ethnographies such as Ho (2009). (Unfortunately, the research underpinning this paper did not encompass socialisation:

the issue of evaluation culture did not strike me until too late in the research process.) Historically, it seems most likely that evaluation practices in finance were often learned by apprenticeship (see, for example, Lowenstein 1995 on the apprenticeship of the celebrated investor Warren Buffett to Benjamin Graham, the famous proponent of the view that shares have an intrinsic value that can be determined by analysis of economic ‘fundamentals’). More recently, evaluation practices are taught formally by industry bodies, most prominently the CFA Institute (which offers the qualification of Chartered Financial Analyst), and by universities via MBA programmes and masters courses in financial mathematics. Although in the absence of detailed research one cannot be sure, it seems very likely that learning evaluation practices either via apprenticeships or via these more formal routes is not simply a matter of acquiring narrow skills, but also of becoming acquainted with wider ontologies and priorities. There is an intriguing piece of quantitative evidence that is consistent with that being consequential: Dincer, Gregory-Allen and Shawky (2010) find that investment managers with MBAs construct riskier portfolios than managers with a CFA qualification.

A third criterion of the existence of an evaluation culture must surely be the presence of mechanisms of interaction amongst participants, including those who work for different firms. Again, this is unfortunately an area on which the research reported here did not focus, but there is striking evidence of such mechanisms of interaction in Simon (2010), who demonstrates the frequency and importance of communication between hedge fund managers who were apparent competitors in that they were pursuing the same strategy in the same domain of the financial markets. (For less

systematic evidence consistent with Simon's conclusion, see Hardie and MacKenzie 2007.)

A fourth indicator of the existence of an evaluation culture would be path-dependent patterns of change. It is hard to imagine it being justifiable to invoke the concept of 'culture' when actors approach every new situation entirely afresh, but in the cases of ABSs and CDOs we have found plentiful evidence that this is not the case: that past practices are resources for current evaluation activities. One example is the way in which the government backing of mortgage securitisation and the historic dominance of 'the American mortgage' led to evaluation practices that focused on prepayment risk. As noted, those practices continued in the evaluation of mortgage-backed securities that were not government-backed and did not consist just of 'American mortgages'. Evaluation practices focused on prepayment help us understand why, for example, 'no income verification' loans were particularly prized: 'The capital markets pay a premium' for them, reported Adelson (2006, p. 14), 'because such loans display slower prepayments'. Another example of path-dependence is the way in which ABS CDOs were not analysed afresh in the rating agencies as an entirely new class of instrument, but existing CDO practices were applied to them with only relatively minor modifications. Those practices formed a rich and readily available set of resources, in many cases already crystallised in software packages available 'off the shelf', making their employment in the evaluation of ABS CDOs the easiest course of action. In a context of heavy workloads, time pressure, and sometimes senior management unwilling to provide the wherewithal to explore different approaches, it is unsurprising that this was the path followed.

## ***Conclusion***

There is evidence, therefore, that a notion of ‘evaluation culture’, conceptualised as above, might be applicable to the analysis of behaviour in the financial markets. One reason why this is an attractive possibility is that the political valence of an application of this kind of the concept of ‘culture’ differs from the situation that gave rise to suspicion of the concept: a situation in which the society from which the researcher comes is more powerful than the society he or she studies. Research on financial markets is ‘studying up’ (Nader 1974): on any ordinary criterion of power, those who are studied are more powerful than the researcher. Anthropologists have, rightly, become intensely self-conscious in respect to the task of representing other cultures, but I feel no such political difficulty in respect to finance: it can, and does, speak for itself powerfully. Although I am not an anthropologist, the question Nader asked nearly four decades ago still resonates with me:

What if, in reinventing anthropology, anthropologists were to study the colonizers rather than the colonized, the culture of power rather than the culture of the powerless, the culture of affluence rather than the culture of poverty? (Nader 1974, p. 289)

There is, however, an important nuance here that needs to be acknowledged. Successfully applying the concept of ‘culture’ requires fieldwork. Although for practical reasons my research has involved almost no participant observation (access for this in finance is hard to negotiate, and the most relevant sites are far from where I live and work), extensive interviewing has been necessary. Very busy people (see Ho 2009 on the long working hours in investment banking) have given me their time, and

taken some risks in doing so. To take but one example, during the research reported here I had formed the impression that one of the rating agencies had been more stringent in its evaluation of ABS CDOs than the others. After I had asked him questions predicated on this assumption, one of my interviewees suggested I speak to his boss. I phoned him immediately after the interview, and he agreed to see me the very next day. He gently corrected my misapprehension, enabling me to see that my favourable view of his agency rested on my failure fully to understand the implications of the particular way in which it implemented its Gaussian-copula-style model. He put me right, at the cost of his time and at the expense of what might have been minor favourable publicity for his agency.

Interactions such as this make the ‘othering’ of bankers and others who work in the finance sector emotionally difficult. In public discourse (for example by politicians) that ‘othering’ is currently strong, and after giving talks I sometimes find that audiences are faintly disappointed by my lack of condemnation of those I have been studying. Certainly, I *have* found error and unscrupulous behaviour in finance, but I find it difficult to be sure that bankers, for example, are in general any worse people than we academics are: it is just that their errors and lack of scruples are more consequential than ours normally are.

Furthermore, just because one might feel comfortable politically with an invocation of ‘culture’ and with representing that culture, it does not mean that the invocation is intellectually unproblematic. Said (1978, p. 324) notes that ‘It is sobering to find, for instance, that while there are dozens of organizations in the United States for studying the Arab and Islamic Orient, there are none in the Orient itself for studying the United

States, by far the greatest economic and political influence in the region.’ Were that to be corrected – were institutes for the study of the United States to flourish in Damascus, Baghdad or Cairo – it would be just as much a mistake for them to essentialise American culture as for Western Orientalists to posit universal moral traits or belief systems characteristic of ‘the East’. If Garfinkel’s (1967) ‘cultural dope’, who simply acts out the scripts of a pre-existing ‘culture’, is not to be found in the East or the South (and s/he is not), there is no reason to expect to find him or her in the West or North.

To be applicable to financial markets, the concept of culture must be de-essentialised. Culture is something people do; it is made and unmade in action. It provides intellectual resources – often borrowed from elsewhere and not necessarily mutually consistent – and while the availability of resources for action may help shape action, resources are not determinants of action. There are no cultural dopes: not in finance (nor, indeed, anywhere else). I have yet to meet a market participant whom I would not class as sceptical and reflexive, and indeed these characteristics are surely necessary for success in the market, for example because of the importance of being aware of how *others* will evaluate the financial instruments in question: it is surely not a coincidence that the world’s most celebrated hedge fund manager is a particular proponent of reflexivity (Soros 1994).<sup>13</sup>

Let me return, then, to Said’s question: ‘Is the notion of a distinct culture ... a useful one ...?’ To the extent that the answer is no, I suspect that the problem lies in the

---

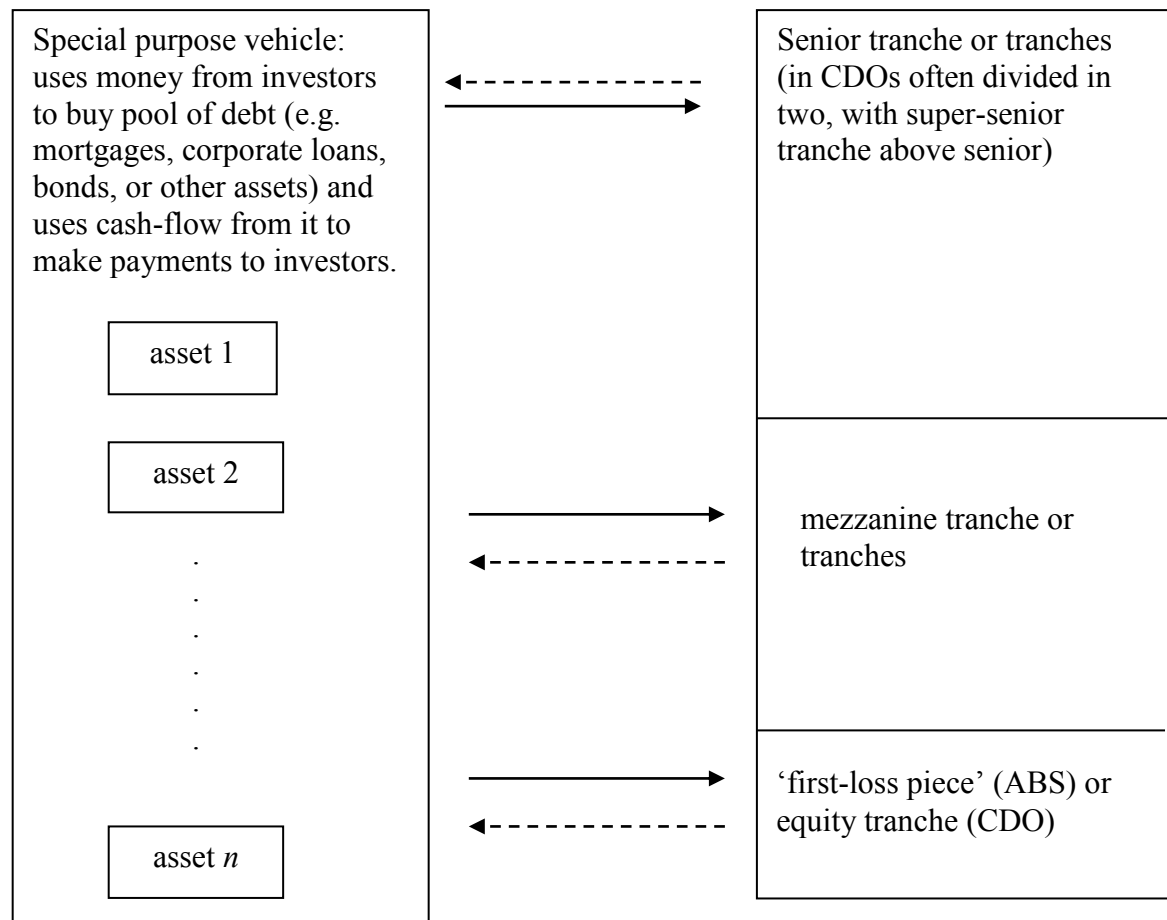
<sup>13</sup> For example, a common form of ‘othering’ in critiques of behaviour in the financial markets is the suggestion that participants are what one might call ‘model dopes’, uncritically accepting the output of mathematical evaluation models. Again, I have encountered no such dopes, nor have the others who have addressed this question: see, especially, Svetlova (2009) and Beunza and Stark (2010).

notion of ‘distinctness’, the associated temptation to essentialise ‘culture’, and the trap of treating culture as the cause of action rather than as an aspect of action. Such difficulties, however, are not reason to abandon ‘culture’. While it is tempting, as Barnard and Spencer note, to discard the noun and keep merely the adjective ‘cultural’, abandoning the noun implies also abandoning its plural, cultures, and thus discarding ‘the very important pluralizing element, the element which marked off modern anthropological usage in the first place’ (1996, p. 142).

To abandon ‘culture’ would also be to abandon a word that is useful precisely because, as noted above, it has entered popular discourse. In one of the more recent of my interviews, quite unprompted by any question from me, a mortgage specialist told me that in two of the banks in which he had worked he had observed what he called a ‘cultural clash’ between mortgage experts and specialists in the corporate debt underpinning traditional CDOs. I was both pleased by the confirmation of my hypothesis and momentarily discomfited (because I am enough of a traditional social scientist to enjoy the conceit that my findings are discoveries rather than phenomena already known to those I am studying). It wasn’t right to be discomfited: it is a virtue of ‘culture’ that it is comprehensible to non-academics (unlike many of the concepts invoked in, for example, politically progressive writing in the humanities, a problem that often makes such writing inaccessible to outsiders). To find ways of writing and thinking about ‘culture’ without becoming culturalist (in other words, without positing cultures as essences, as mutually disjoint organic wholes determining action) is thus a task of no small importance, precisely because we are dealing with a loaded and evocative word, and one that has escaped the confines of academia. It is this



chapter's postulate that evaluation cultures in financial markets are a useful site for this writing and thinking.



**Figure 1: An ABS or CDO (simplified and not to scale)**

←----- capital investments by investors  
 →----- payments to investors

Investors in lower tranches receive payments only if funds remain after payments due to investors in more senior tranches are made. In an ABS the assets in the pool are typically mortgages or other consumer debt. In a corporate CDO they are loans made to corporations or bonds issued by them. What is shown is a 'cash CDO': in a 'synthetic CDO' the special purpose vehicle 'sells protection' on the assets via credit default swaps rather than buying them. In many ABSs, the first-loss piece is eliminated by 'over-collateralisation' (i.e. by issuing securities with an aggregate face value less than that of the total assets in the pool), thus leaving the mezzanine tranche(s) the lowest in the hierarchy of seniority.

## References

- Adelson, M. (2006). Report from Las Vegas: Coverage of Selected Sessions of ASF 2006, New York: Nomura Securities, February. Available at [http://www.securitization.net/pdf/Nomura/ASF2006\\_3Feb06.pdf](http://www.securitization.net/pdf/Nomura/ASF2006_3Feb06.pdf), accessed February, 11, 2010.
- Adelson, M. and D. Jacob (2008). "The Sub-Prime Problem: Causes and Lessons." *Journal of Structured Finance* 14/1: 12-17.
- Barnard, A. and J. Spencer (1996). Culture. *Encyclopedia of Social and Cultural Anthropology*. Edited by A. Barnard and J. Spencer. London, Routledge: 136-143.
- Barnes, B., D. Bloor, and J. Henry. (1996). *Scientific Knowledge: A Sociological Analysis*. London: Athlone and Chicago, Chicago University Press.
- Beunza, D. and D. Stark (2010). Models, Reflexivity and Systemic Risk: A Critique of Behavioral Finance., <http://ssrn.com/abstract=1285054>.
- Black, F. and M. Scholes (1973). "The Pricing of Options and Corporate Liabilities." *Journal of Political Economy* 81: 637-654.
- Collins, H. (2004). *Gravity's Shadow: The Search for Gravitational Waves*. Chicago, Chicago University Press.
- Dincer, O., R. B. Gregory-Allen and H.A Shawky. (2010). Are you Smarter than a CFA'er?, Available at <http://ssrn.com/abstract=1458219>, assessed 22 November 2010
- Financial Crisis Inquiry Commission (2011). *The Financial Crisis Inquiry Report*. Washington, DC, Government Printing Office.
- Garfinkel, H. (1967). *Studies in Ethnomethodology*. Englewood Cliffs, NJ, Prentice-Hall.
- Green, R. K. and S. M. Wachter (2005). "The American Mortgage in Historical and International Context." *Journal of Economic Perspectives* 19/4: 93-114.
- Hardie, I. and D. MacKenzie (2007). "Assembling an Economic Actor: The Agencement of a Hedge Fund." *Sociological Review* 55: 57-80.
- Ho, K. (2009). *Liquidated: An Ethnography of Wall Street*. Durham, NC, Duke University Press.
- Kalthoff, H. (2006). Cultures of Economic Calculation. *Towards a Cognitive Mode in Global Finance*. Edited by T. Strulik and H. Willke. Frankfurt/Main, Campus: 156-179.

- Keller, E. F. (2002). *Making Sense of Life: Explaining Biological Development with Models, Metaphors, and Machines*. Cambridge, MA, Harvard University Press.
- Knorr Cetina, K. (1999). *Epistemic Cultures: How the Sciences make Knowledge*. Cambridge, MA, Harvard University Press.
- Kolhatkar, S. and S. V. Bhaktauatsalam (2010). "The Colossus of Wall Street." *Bloomberg Businessweek* 13-19 December: 60-67.
- Lépinay, V. (In press). *Codes of Finance: Deriving Value in a Global Bank*. Princeton, NJ, Princeton University Press.
- Li, D. X. (2000). "On Default Correlation: A Copula Function Approach." *Journal of Fixed Income* 9/4: 43-54.
- Lowenstein, R. (1995). *Buffett: The Making of an American Capitalist*. New York, Random House.
- MacKenzie, D. (2001). *Mechanizing Proof: Computing Risk, and Trust*. Cambridge, MA, MIT Press.
- MacKenzie, D. (2011). "The Credit Crisis as a Problem in the Sociology of Knowledge." *American Journal of Sociology*. 116: 1778-1841
- Maurer, B. (2005). *Mutual Life, Limited: Islamic Banking, Alternative Currencies, Lateral Reason*. Princeton, NJ, Princeton University Press.
- Mikes, A. (2009). "Risk Management and Calculative Cultures." *Management Accounting Research* 20: 18-40.
- Mol, A. (2002). *The Body Multiple: Ontology in Medical Practice*. Durham, NC, Duke University Press.
- Nader, L. (1974). Up the Anthropologist: Perspectives Gained from Studying Up. *Reinventing Anthropology*. Edited by D. Hymes. New York, Vintage: 284-311.
- Poon, M. (2007). Scorecards as Devices for Consumer Credit: The Case of Fair, Isaac & Company Incorporated. *Market Devices*. Edited by M. Callon, Y. Millo and F. Muniesa. Oxford, Blackwell: 284-306.
- Poon, M. (2009). "From New Deal Institutions to Capital Markets: Commercial Consumer Risk Scores and the Making of Subprime Mortgage Finance." *Accounting, Organizations and Society* 34: 654-674.
- Quinn, S. (2009). Things of Shreds and Patches: Credit Aid, the Budget, and Securitization in America, Working paper: University of California, Berkeley, Department of Sociology.
- Rheinberger, H.-J. (1997). *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*. Stanford, CA, Stanford University Press.

- Said, E. W. (1978). *Orientalism*. London, Routledge.
- Simon, J. (2010). *Essays in Hedge Funds: Performance, Persistence and the Decision-Making Process*, University of Essex: PhD thesis.
- Sklar, A. (1959). "Fonctions de répartition à  $n$  dimensions et leurs marges." *Publications de l'Institut de Statistique de l'Université de Paris* 8: 229-231.
- Smith, C. W. (1989). *Auctions: The Social Construction of Value*. New York, Free Press.
- Soros, G. (1994). *The Alchemy of Finance: Reading the Mind of the Market*. New York, Wiley.
- Svetlova, E. (2009). Theoretical Models as Creative Resources in Financial Markets. *Rationalität der Kreativität? Multidisziplinäre Beiträge zur Analyse der Produktion, Organisation und Bildung von Kreativität*. Edited by S. A. Jansen, E. Schröter and N. Stehr. Wiesbaden, Springer: 121-135.
- Tett, G. (2009). *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe*. London, Little, Brown.
- Viveiros de Castro, E. (2004). "Exchanging Perspectives: The Transformation of Objects into Subjects in Amerindian Ontologies." *Common Knowledge* 10: 463-484.